

EX PARTE OR LATE FILED



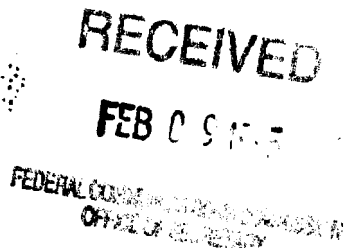
**Building The  
Wireless Future™**

February 9, 1995

**CTIA**

Cellular  
Telecommunications  
Industry Association  
1250 Connecticut  
Avenue, N.W.  
Suite 200  
Washington, D.C. 20036  
202-785-0081 Telephone  
202-785-0721 Fax

Mr. William F. Caton  
Secretary  
Federal Communications Commission  
1919 M Street, N.W., Room 222  
Washington, D.C. 20554



Re: Ex Parte Presentation  
CC Docket No. 94-54, RM-8012

DOCKETED COPY ORIGINAL

Dear Mr. Caton:

On Thursday, February 9, 1995, the Cellular Telecommunications Industry Association ("CTIA") represented by Mr. Michael Altschul, Vice President and General Counsel; Mr. Randall Coleman, Vice President, Regulatory Policy and Law; Mr. Arthur Prest, Vice President for Science and Technology; Mr. Robert Montgomery, Network Manager; Ms. Andrea Williams, Staff Counsel; and Mr. Dennis D. Parker, President and CEO, Independent Telecommunications Network, Inc., met with the following Commission staff persons to discuss issues concerning CMRS interconnection:

**Office of Plans and Policy**

Ms. Florence Seltzer, Senior Staff Economist  
Mr. Gregory Rosston, Telecommunications Specialist

**Wireless Telecommunications Bureau**

Ms. Judy Argentieri, Attorney, Policy Division

**Common Carrier Bureau**

Ms. Barbara S. Esbin, Assistant Chief, Tariff Division  
Mr. Kalpak Gude, General Attorney, Tariff Division

No. of Copies rec'd 021  
List A B C D E

At the meeting, CTIA also presented the attached documents. Pursuant to Section 1.1206 of the Commission's Rules, an original and one copy of this letter and the attachments are being filed with your office. If you have any questions concerning this submission, please contact the undersigned.

Sincerely,

A handwritten signature in black ink, reading "Andrea D. Williams". The signature is written in a cursive, flowing style with a large initial "A".

Andrea D. Williams  
Staff Counsel

Attachments (8)

CTIA



***Building The Wireless Future™***

RECEIVED

FEB 09 1995

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY

**CMRS-CMRS  
Interconnection**

**v.**

**Resale and Roaming**

**Cellular Telecommunications  
Industry Association (CTIA)  
Ex Parte Presentation Concerning  
CC Docket No. 94-54  
February 9, 1995**

---



**Today's Theme:** The concerns expressed by some regarding the need for CMRS "interconnection" can be met by LEC interconnection, the current cellular resale obligation, roaming agreements between the parties and adherence to certain technical standards.

- **Primary Concerns**
  - **LEC Interconnection**
  - **Cellular Resale Obligation**
  - **Cellular-PCS Roaming - Signaling System 7 (SS7) / Interim Standard 41 (IS-41)**
  - **Conclusion**
-



**Primary Concerns**

- **Interoperability between wireless networks, i.e., the ability of customers on one wireless network to reach customers on any other wireless (or wired) network;**

**or**

- **As expressed by American Personal Communications (APC):**

**As PCS providers begin building out their systems, they will be able to offer competitive service only if subscribers have access to nationwide roaming capabilities on cellular systems.**

**Comments of APC in CC Docket No. 94-54, filed September 12, 1994, at 6.**

---



**Interconnectivity of Subscribers Using Different  
CMRS Providers Is Most Efficiently Achieved Through  
LEC Interconnection**

- **Few carriers have a business unless they provide their customers with interconnection, locally and long distance, to all other telephone customers.**
  - **All carriers currently interconnect to the PSTN through LECs.**
  - **Existing law requires all LECs to provide interconnection to all CMRS and long distance carriers on non-discriminatory terms.**
  - **Today, LECs provide that interconnection to both local cellular carriers, to new ESMR competitors of cellular (e.g., Nextel), and to paging companies.**
  - **98-99% of current wireless traffic either originates or terminates with a LEC.**
  - **The good faith negotiation of interconnection arrangements between LECs and CMRS providers works and tariffs do not.**
-



### **Cellular Resale Obligation**

- **Cellular carriers have always been subject to an resale obligation.**
    - **Exception: cellular carriers are permitted to deny unrestricted resale to an intra-market cellular competitor after completion of that competitor's five-year fill-in period.**
    - **Currently, this exception does not apply to PCS or other similarly situated, non-cellular CMRS providers.**
    - **However, since a PCS system's common air interface (CAI) is not compatible with a cellular system's CAI, there is no need for a similar rule. If a PCS provider wants to provide its customers access to a cellular system, it will have to offer customers a dual-band PCS-cellular phone. With a FCC-assigned system identification (SID), the PCS customer would be entitled under the FCC's rules to roam on any cellular system.**
  - **The cellular resale obligation would enable PCS providers to use dual band phones to offer wide-area service while it completes network construction.**
  - **Outside of their existing territories, cellular carriers will be PCS providers. Thus, the availability of cellular resale is just as important to them.**
-



**PCS-Cellular Roaming Can Be Accomplished through  
Business Arrangements and IS-41 Connection**

- **PCS-cellular roaming is predicated on the use of dual-band telephones.**
  - **Roaming between PCS and cellular carriers is made possible through business arrangements between carriers which permits the subscribers of one carrier to initiate and receive calls in the territory served by the other carrier.**
  - **Both carriers must be connected to an SS7 network and adhere to the IS-41 protocol which:**
    - **Allows tracking of the subscriber while out of the home calling area,**
    - **Allows pre-call validation of the visiting caller's account information as a check against fraud, and**
    - **Obviates the need for cumbersome roamer access codes.**
    - **Permits customers to access vertical features when roaming.**
  - **Outside of their existing territories, cellular carriers will be PCS providers. Thus, the ability to roam on cellular networks is just as important to them.**
-



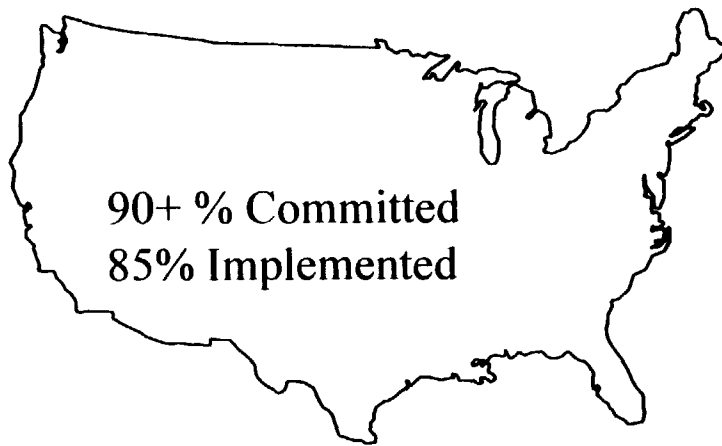


### **Conclusion**

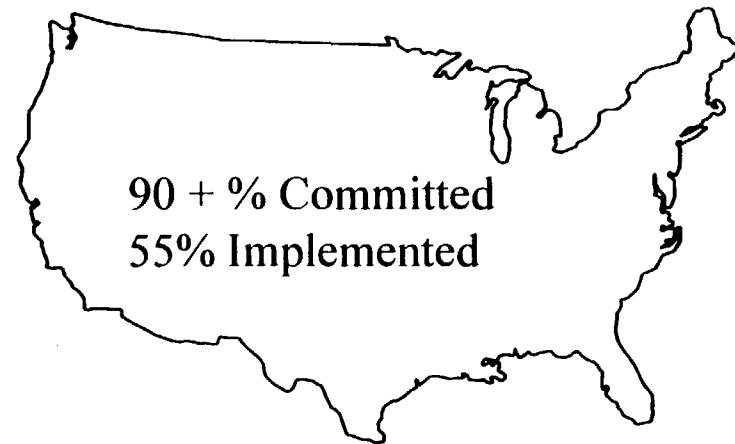
- **New interconnection obligations are unnecessary.**
  - **Agreements between the parties will accomplish the interconnectivity of subscribers in a flexible and customized manner.**
-

**CTIA**

## **Today's Commitment to IS-41**



**A - Side**



**B - Side**

**Science and Technology**



## FEATURES

### IS-41 Rev A

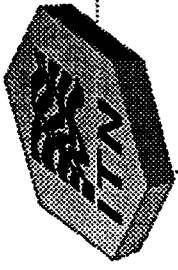
1. Intersystem Hand-off
2. Automatic Roaming
3. OA&M
4. Data Communications

### IS-41 Rev B

1. Automatic Roaming and Validation
2. Global Title Translation
3. Dual Mode Terminals
4. Path Minimization
5. Hand-off with Features

### IS-41 Rev C

1. Call delivery
2. Call Forwarding Busy
3. Call Forwarding Default (unconditional Call Forwarding after call delivery)
4. Call Forwarding No Answer
5. Call Forwarding unconditional
6. Call Transfer
7. Call Waiting
8. Calling Number ID Presentation
9. Calling Number ID Restriction
10. Conference Calling
11. Do Not Disturb
12. Flexible Alerting (supports ETS)
13. Message Waiting Notification
14. Mobile Access Hunting (supports ETS)
15. Password Call Acceptance
16. Preferred Language Service
17. Priority Access and Channel Assignment (PACA supports E911)
18. Remote Feature Control
19. Selective Call Acceptance
20. Subscriber PIN Access
21. Subscriber PIN Intercept
22. Three Way Calling
23. Voice Message Retrieval
24. Voice Privacy
25. Short Message Service
  - Short Mess Delivery - Point -to -Point
  - Short Mess Delivery - Broadcast
  - Cellular Paging Teleservice
  - Cellular Messaging Teleservice



# Seamless Services for PCS Providers



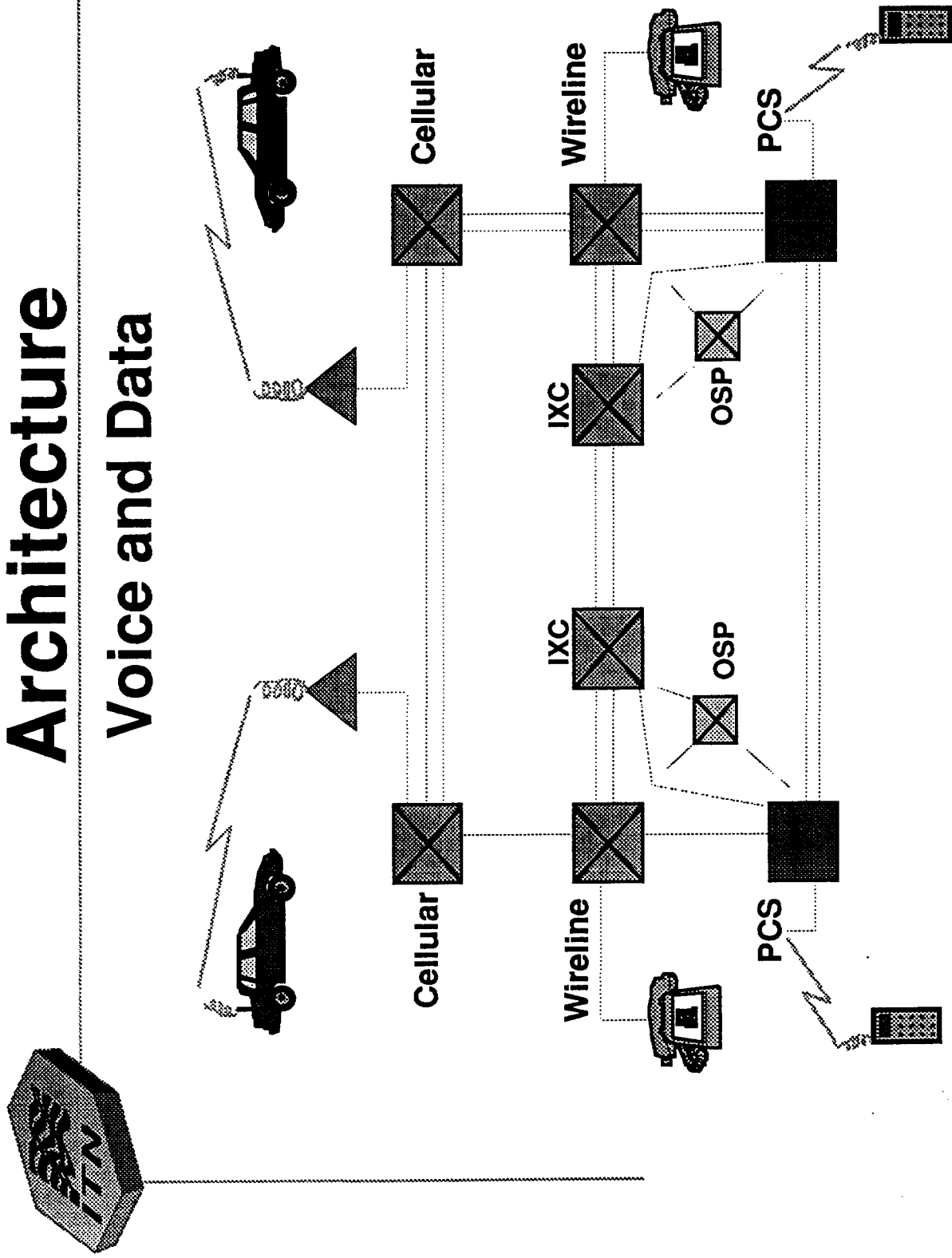
# Advice

---

- **Hire A Capable Consultant**
- **Hire A Capable Attorney**
- **Line Up Your Build-out Money Now**
- **Count On Twice As Much, Twice as Long**
- **Nothing Is, Or Will Be, FREE**
- **The Bigger They Are, The Nastier They Will Get**

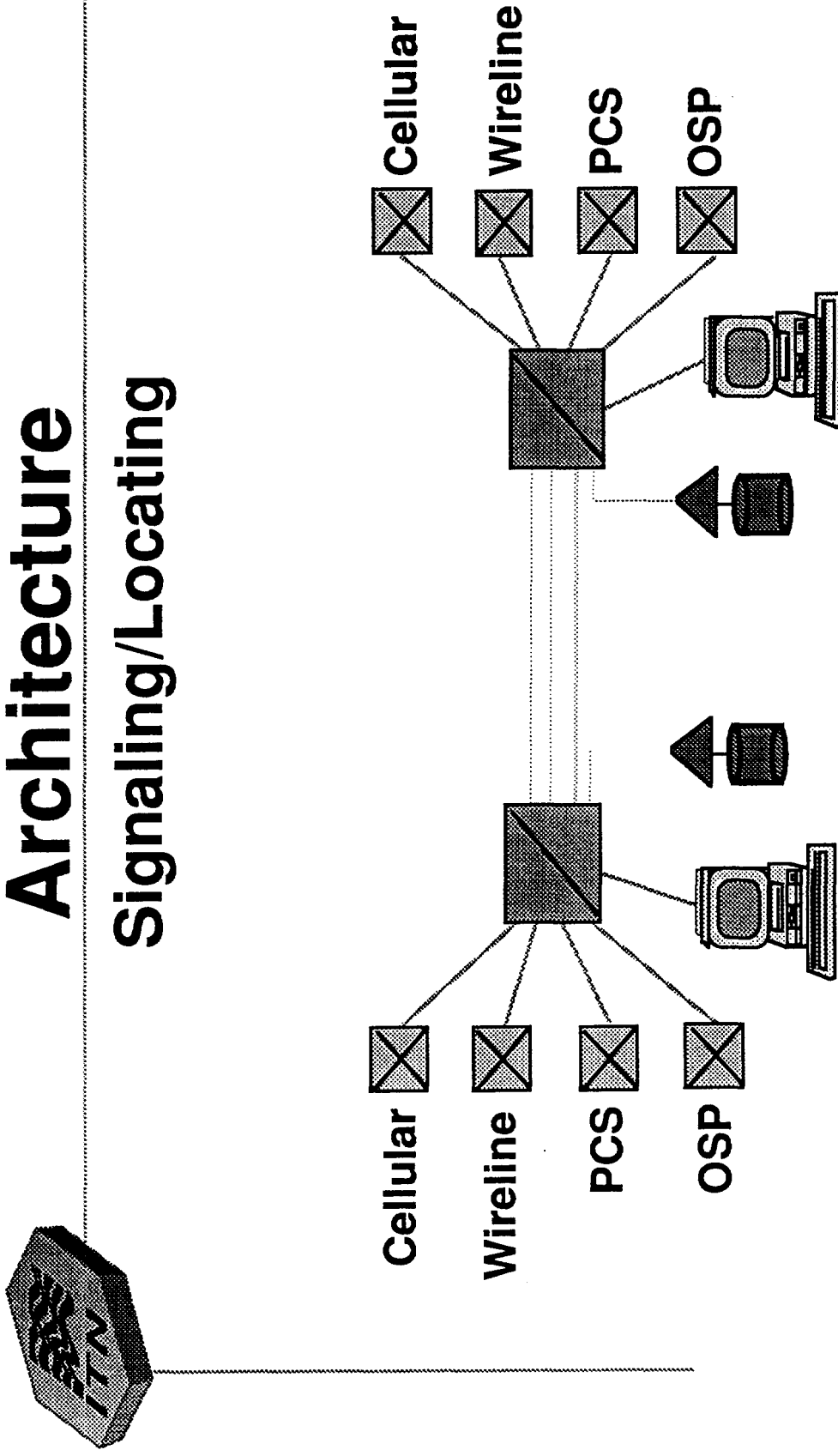
# Architecture

## Voice and Data



# Architecture

## Signaling/Locating





# ITN Network

---

- **Nine Pairs of SS7 Switches**
- **Three Level Hierarchy for Maximum Reliability and Flexibility**
- **Duplicated, High Capacity Feature Processors and Duplicated Data Bases**
- **Connected to All Functional Data Bases and All SS7 Networks**
- **Carries SS7, IS-41, X.25, GSM-MAP**
- **Robust Protocol Conversion**
- **Serves Hundreds of North American Companies**





# ITN Services

---

- **Seamless Cellular Roaming/Locating**
- **Per Message and Bulk SS7 Billing**
- **7X24 Electronic Customer Service Support**
- **Real Time Access to Home and Roamer Activity**
- **Complete LIDB and A800 Service**
- **Robust Protocol Conversion**
- **Satellite Signaling Access**
- **Choice of Design and Maintenance Service Levels**
- **Credit Card Validation**
- **AIN Services and Partnerships**



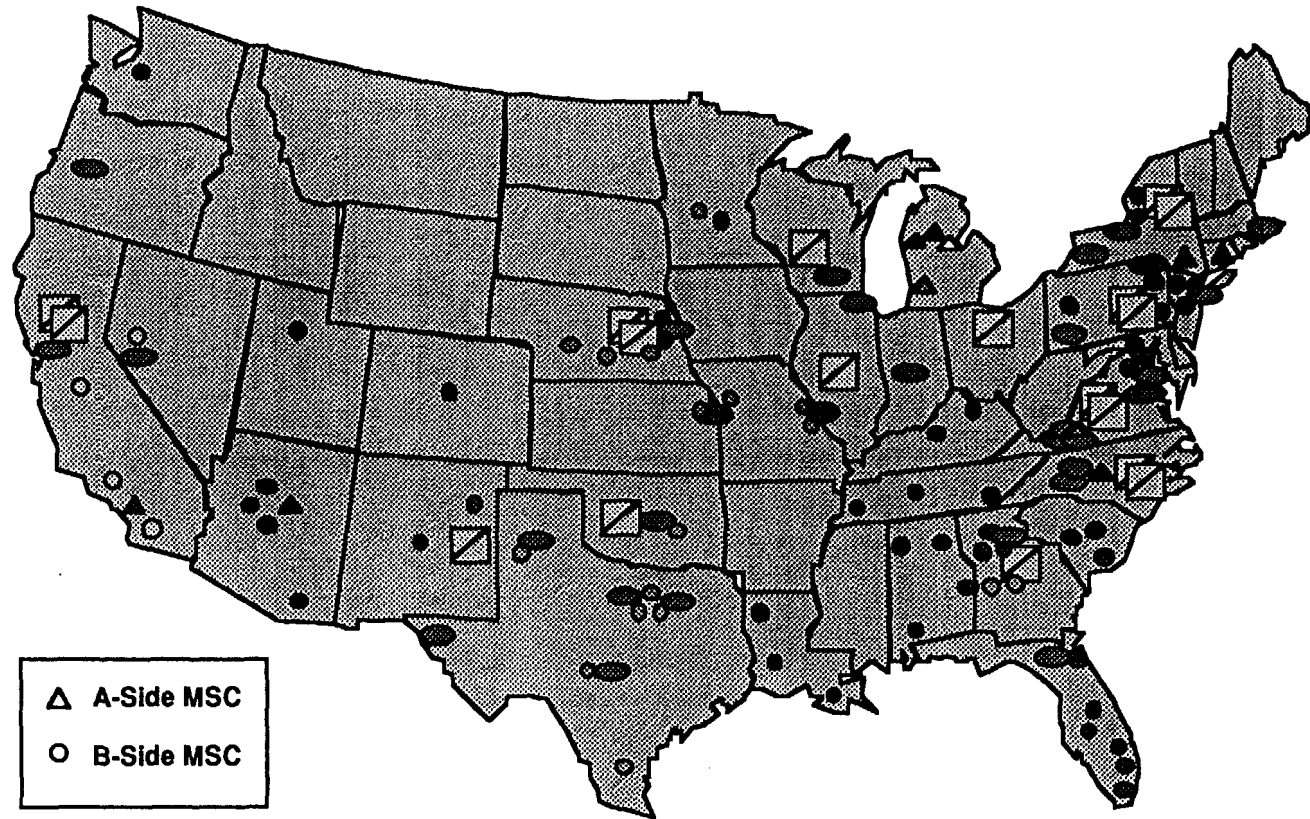
# ITN Business

---

- **Wholesale Only**
- **Not LEC, IXC, OSP, CAP, or Wireless Retailer**
- **Prefer Partners, Sell to Customers**
- **We Don't Compete With You**
- **We Know Our Business, You Know Yours**
- **Our Network is Your Network**
- **Our Staff is Your Staff**



# ITN's CTIA Cellular Services Network



● SPOI	△ A-Side MSC
▧ STP	○ B-Side MSC

● US West - New Vector Group	● Switch 2000	△ Unitel	● Cellular Plus
● AirTouch	● Bell Atlantic Mobile	△ Sterling	● Virginia Cellular
● Southwestern Bell Mobile	● Frontier Cellular	△ LA Cellular	
● BellSouth Mobility	△ Bell Atlantic Mobile (A-Band)	△ NY Cellular	
● Lincoln Telephone	△ Allegan	● Pioneer Cellular	
● Nebraska Cellular	△ RFB	● Public Service	



***Alliance AIN<sup>TM</sup>***

---

**A<sup>2</sup>IN<sup>TM</sup>**

AIN's unique  
dedicated  
platform gives  
you all the  
benefits of AIN...  
now and into  
the future.

---

***Delivers the Power of AIN***



Independent Telecommunications Network, Inc.

## Alliance AIN™ = A²IN™

A²IN is a fully integrated AIN platform designed to give you the most flexible AIN solution available today. ITN, with its A²IN platform, places its focus on your success in implementing AIN Services. With A²IN's distributed architecture, service providers can implement all or part of the AIN in their networks. You can choose where call processing occurs. You can choose where to store your customer records. A²IN's user friendly and flexible service creation environment allows new services to be created by you, the service provider, or by ITN. Only A²IN gives you an AIN package flexible enough to meet your service and budget requirements, today and tomorrow.

Cooperative customer alliances enable ITN to serve you more responsively and effectively. ITN's A²IN offers a system that empowers your AIN capabilities. In addition, ITN, a Tandem Alliance Partner, brings the power of one of the leading intelligent network software and hardware providers into the hands of its customers. Alliance AIN is A²IN, an alliance created for you.

## With A²IN...

### Why AIN?

In order to meet the demands of today's highly sophisticated, highly mobile subscribers, telephone service providers must continually enhance their service offerings. These new services and features must be delivered in a timely, cost-effective manner to meet their needs.

The Advanced Intelligent Network concept was created with these requirements in mind. The AIN moves the network intelligence out of the central office switch and distributes it to individual network elements. Service providers no longer have to wait for equipment manufacturers to provide new services. With AIN, service providers are now service creators.

### ... ***You select which AIN elements to deploy in your network.***

ITN, with Tandem Computers Incorporated, has created the A²IN architecture. This uniquely distributed architecture utilizes Tandem's NonStop Availability Solutions to create a highly reliable AIN network. The distributed nature of this system allows you to decide which network elements to deploy. A²IN gives you the flexibility to deploy some or all of the AIN in your network. With A²IN you determine the level of your investment in AIN.

### ... ***You choose the service creator.***

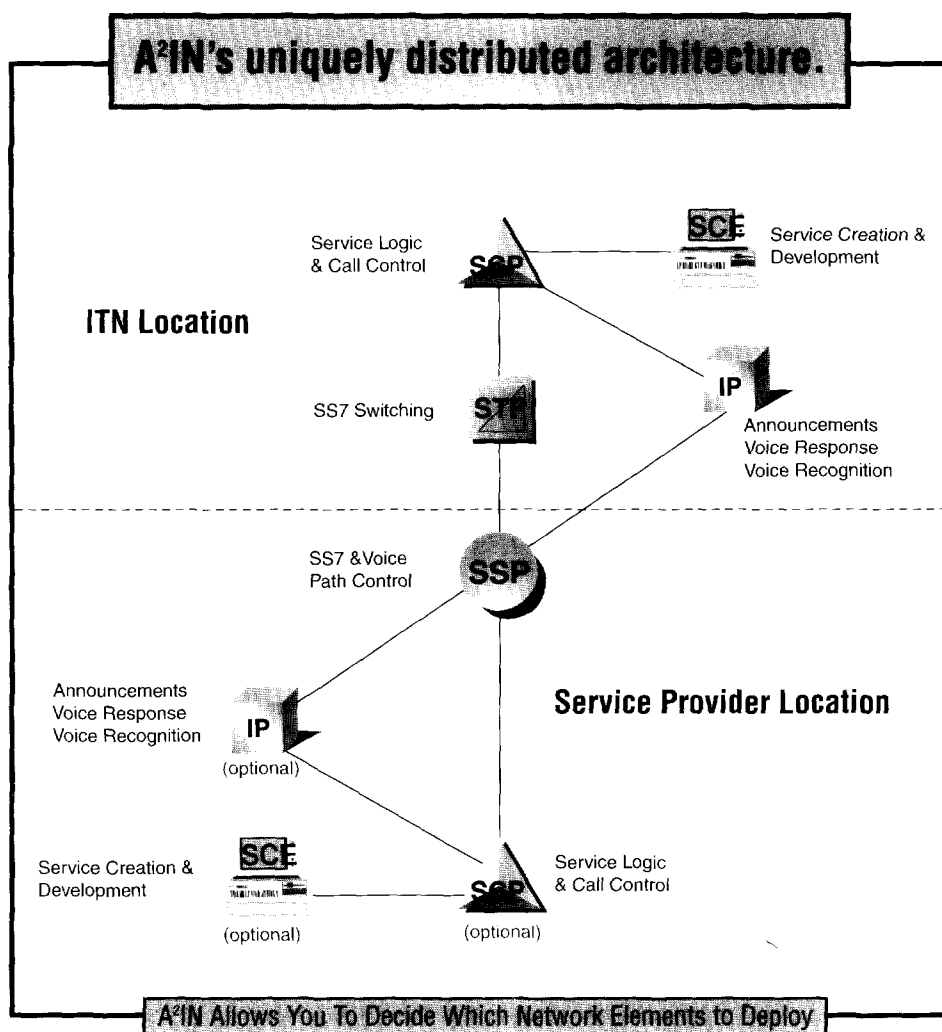
A²IN gives you the flexibility to choose who will create the services that will be offered on your network. You can create your own services or ITN can create them for you. With A²IN you determine the service creation provider that meets your needs, you or ITN.

### ... ***You determine which services to deploy.***

With A²IN you can implement "off the shelf" end user services, customize "off the shelf" services to meet the particular needs of your subscribers, or create a totally new service for special subscribers. With A²IN you offer the services your end users want.

### ... ***You decide when to deploy new services.***

A²IN allows new services to be created and deployed in a timely manner. You can deploy new services when and where your subscribers need them.



## Service Creation and Development

AIN end user services are created using an AIN Service Creation Environment. A<sup>2</sup>IN offers a number of service creation options for service providers. These options include using A<sup>2</sup>IN's baseline services or creating your own services. The service creation environment may be on your premises or ITN's. A<sup>2</sup>IN gives you the service creation flexibility you need.



## Service Logic and Call Control

The Service Control Point provides service logic and call control. With A<sup>2</sup>IN, you can access ITN's SCP to give you a full featured, low cost AIN. You can also utilize A<sup>2</sup>IN end user services with your own SCP providing call control. As an option, ITN's SCP can provide backup service for holidays, weekends and coverage during network or equipment upgrades.



## Announcements, Voice Response and Voice Recognition

Intelligent Peripherals provide a variety of optional announcements, voice response, voice recognition, and call routing functions. With A<sup>2</sup>IN, end user services can utilize IP functions provided by ITN or by you. Either way, you benefit from all the features of A<sup>2</sup>IN.



## ... You control the customer records.

In the A<sup>2</sup>IN network, customer records are maintained in a fileserver you control. You determine who supports and maintains your records, you or ITN. With A<sup>2</sup>IN you decide.

## ... You set the level of support you want.

To help you build the Advanced Intelligent Network you want, ITN's A<sup>2</sup>IN product line includes the optional support services that you may want. With A<sup>2</sup>IN you select who provides the AIN support services.

## ITN Support Services

As part of the A<sup>2</sup>IN program, ITN offers you a full range of support services. These services include Billing, Marketing and Sales Support, and Service Maintenance. ITN will help you market the services you create to other service providers. With A<sup>2</sup>IN the focus is you.



# ... You Have the Power of AIN

---

*For more information...*



Independent Telecommunications Network, Inc.  
8500 West 110th Street  
Overland Park, Kansas 66210  
913.491.1600  
FAX 913.469.0606



---

A<sup>2</sup>IN and Alliance AIN are trademarks of Independent Telecommunications Network, Inc. Tandem, Tandem Alliance Partner, NonStop Availability, and the Tandem logo are trademarks of Tandem Computers Incorporated.

Technical Specifications are subject to change without notice. ITN reserves the right to make changes as customer specific engineering deems applicable.

A<sup>2</sup>IN-1-95

Printed in U.S.A.

# ROSS

## Roamer On-Line Support Service



*ITN provides visibility and access to all roamer transactions for a full service approach to seamless roaming.*



Independent Telecommunications Network, Inc.



## Welcome to ROSS.



*ITN's Roamer On-Line Support Service, ROSS, provides on-line access to real time roamer transactions within seconds, 24 hours a day. ROSS supports customer service and trouble shooting functions with up to the minute information on every transaction affecting your roamers.*

### Value-Added

ROSS is a value added service, enhancing customer service capability for those cellular companies using IS-41 seamless roaming protocol. This service operates independently of cellular switch type or network provider. Both A-side and B-side cellular carriers can enjoy the benefits ROSS offers. ROSS is expandable and will be continuously upgraded based upon industry input.

### Real-time Trouble Shooting

Your customer support staff can now respond to a roamer's trouble call with accurate, timely information while the roamer is on the phone.

### Visibility

ROSS collects, stores, and formats IS-41 seamless roaming messages either originated by, or sent to a monitored switch. This allows visibility into both foreign and home roaming activity.

### Ease of Use

ROSS displays selected customer transaction and feature interaction messages based on Mobile Identification Numbers (MINs) and presents the information in easy to understand formats. Past roamer transactions, up to 7 previous days, are available to customer service personnel. Active screens can be printed as needed for future reference. Existing PCs work with ROSS eliminating the need for equipment changes.

### On-site Training

ITN has staffed its ROSS support center with a knowledgeable support team, available as needed, to assist cellular carriers in resolving roamer problems outside the scope of their own customer service groups.

ITN provides on-site training to help cellular carriers get started with ROSS, plus helpful User Guides to ensure quick familiarity and productivity.

#### Individual Roamer Activity

Requested By: Debbie Smith 5/18/94 2:56 p.m.

Requested Period: 7:00 a.m. to 3:00 p.m.  
Requested MIN: 212 344 1234

Home MSCID: 02201 - New York City ESN = A987B63421

Date	Time	Activity	Status	Serving MSCID	Serving Market
5/18	9:54am	Registration	*12 hrs.	00052	Kansas City
5/18	9:54am	Qual. Request	*Delinq.	00052	Kansas City
5/18	9:56am	Registration	*Indef.	01408	MO #7 RSA
5/18	9:57am	Cancellation	OK	01408	MO #7 RSA
5/18	11:35am	Registration	*12 hrs.	00052	Kansas City

#### Message Detail

Requested By: Debbie Smith 5/18/94 3:07 p.m.

Requested Message: Date Time MIN  
5/18/94 11:35 a.m. 212 344 1234

Serving MSID: 00052 - Kansas City  
Home MSCID: 02201 - New York City ESN = A987B63421

Authorization Denied	N/A		
Authorization Period	12 hrs.		
Origination Indicator	Local Only		
Termination Restrictions	None		
Calling Features	Authorization	Active	
Call Forward - Unconditional	Y	N	
Call Forward - Busy	Y	N	
Call Forward - No Answer	Y	N	
Call Waiting	N	N	
Three Way Calling	Y	N	

**Note:** Screens shown are typical of actual data.